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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,870	01/07/2004	Yoshifumi Kojima	121036-0066	4882

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BUTZEL LONG
350 SOUTH MAIN STREET
SUITE 300
ANN ARBOR, MI 48104

EXAMINER	
HU, HENRY S	

ART UNIT	PAPER NUMBER
1713	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	10/752,870	KOJIMA ET AL.	
	Examin r	Art Unit	
	Henry S. Hu	1713	

-- The MAILING DATE of this communication appears on the c ver sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Election of April 21, 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *3,4,6,7,9,10,12,13,15,16,18,19,21,22,24 and 25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,8,11,14,17,20 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-25* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1-7-2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. It is noted that USPTO has received a faxed **Election** filed on April 21, 2006. **Group I of Claims 1-2, 5, 8, 11, 14, 17, 20 and 23 were elected without traverse**, which was further confirmed on a telephone conversation by Examiner on April 25, 2006. Claims 1-25 with a total of two independent claims (Claim 1 and Claim 3) are now pending, while non-elected **Claims 3-4, 6-7, 9-10, 12-13, 15-16, 18-19, 21-22 and 24-25 (Group II) are withdrawn from consideration**. An action follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. The limitation of parent **Claim 1** in present invention relates to ***a fluoroelastomer composition***, *which comprises 100 parts by weight of* ***vinylidene fluoride-perfluoro(methyl vinyl ether)-tetrafluoroethylene terpolymer*** *and 10 to 50 parts by weight of* ***liquid fluoroelastomer*** *having a* ***viscosity of 500-3,000 cps at 100 °C.*** *See other limitations of dependent* ***Claims 2, 5, 8, 11, 14, 17, 20 and 23.***

5. Claims 1-2, 5, 8, 11, 14, 17, 20 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Hochgesang et al. (USPG-PUB 2004/0048983 A1).

Regarding the composition limitation of parent **Claim 1, Hochgesang** et al. have already disclosed that **a fluoroelastomer composition** may comprise two different sub-compositions as follows: one is a peroxide-curable **solid fluoroelastomer** along with a peroxide curative agent, and the other one is a bisphenol-curable **"liquid" fluoroelastomer** along with a bisphenol curative agent (abstract, line 1-5; see paragraphs 22 and 23 for solid fluoroelastomer, particularly see using the claimed **terpolymer of TFE (1-96 wt%) /VDF (2-97 wt%) /PMVE (1-96 wt%);** see paragraphs 28-31 for the use of liquid fluoroelastomer). It is noted that weight ratio of Hochgesang's terpolymer TFE/VDF/PMVE is indeed reading on molar ratio of Applicants' terpolymer VdF/FMVE/TFE on page 4 at lines 7-9 after conversion of unit.

6. In a close examination, Hochgesang reference is only **silent of the claimed viscosity of 500-3,000 cps at 100 °C on liquid fluoroelastomer**. However, Hochgesang has disclosed that many "liquid" fluoroelastomers can be used in this regard. For instance, it includes VDF/HFP elastomers, a claimed terpolymer TFE/VDF/PMVE, fluorophosphazene elastomers, and olefin-containing fluoroelastomers which all are with **a molecular weight range at 500-20,000**. In light of the fact that the prior art and the present invention recite **(a) substantially identical "liquid" fluoropolymer composition particularly along with the same or similar molecular weight in the low range, and (b) made by the same or similar type of polymerization,** a reasonable basis exists to believe that the products of the invention inherently possess the same viscosity properties. Since PTO does not have proper means to conduct experiments, the burden of proof is now shifted to Applicants to show otherwise. *In re Best*, 195 USPQ 430 (CCPA 1977).

> It has been held that where applicant claims a composition in terms of function, property or characteristic where said function is not explicitly shown by the reference and where the examiner has explained why the function, property or characteristic is considered inherent in the prior art, it is appropriate for the examiner to make a rejection under both the applicable section of 35 USC 102 and 35 USC 103 such that the burden is placed upon the applicant to provide clear evidence that the respective compositions do in fact differ. *In re Best*, 195 USPQ 430, 433 (CCPA 1977); *In re Fitzgerald et al.*, 205 USPQ 594, 596 (CCPA 1980).

7. Regarding **Claim 2**, the claimed copolymer VDF/HFP may one of the many options for solid fluoroelastomer used by Hochgesang (paragraph 22).

Regarding **Claim 5**, a mixture of **organic peroxide and a coagent (which is composed of a polyunsaturated compound)** may be used according to the disclosure of Hochgesang (paragraphs 25 and 26).

Regarding **three different properties including hardness, compression set and TR10** in **Claim 8, 11 and 17 respectively**, Hochgesang's composition would either inherently possess the same properties or is obvious to carry the same or similar properties in light of the fact that the prior art and the present invention recite (a) substantially identical or at least similar fluoroelastomer composition, and (b) adding the same mixture of organic peroxide and a coagent composed of a polyunsaturated compound (see Claim 5).

Regarding the application in **Claims 14, 20 and 23**, such a fluoroelastomer composition can be readily used to make **seal, gasket and the like** according to the disclosure of Hochgesang (see paragraphs 147-150, particularly see "seal" on paragraph 147 at line 5 and "gasket" on paragraph 148 at line 2).

8. Claims 1-2, 5, 8, 11, 14, 17, 20 and 23 are rejected under 35 U.S.C. 103(a) as being obvious over Duane (US 3,573,976) in view of Hochgesang et al. (USPG-PUB 2004/0048983 A1).

Regarding the limitation of parent **Claim 1, Duane** has already disclosed **a method of making coaxial cable** from two options. For instance, it can be from a non-fluorinated composition of a solid polyethylene and a liquid polymeric hydrocarbon, or **from a fluorinated composition of a solid fluropolymer (such as polytetrafluoroethylene) and a compatible liquid polymeric fkluorocarbon** (such as copolymer TFE/VDF with a specific molecular weight being about 3600) (see column 6, line 66 - column 7, line 10).

9. In a close examination, Duane reference is **silent of specifically using the claimed terpolymer TFE/VDF/PMVE fluoroelastomer as solid fluoropolymer in the composition. Hochgesang** teaches the same type of blend composition as: "**a fluoroelastomer composition** may comprise two different sub-compositions as follows: one is a peroxide-curable **solid fluoroelastomer** along with a peroxide curative agent, and the other one is a bisphenol-curable "**liquid" fluoroelastomer** along with a bisphenol curative agent (abstract, line 1-5; see paragraphs 22 and 23 for solid fluoroelastomer, particularly for the claimed **terpolymer of TFE (1-96 wt%) /VDF (2-97 wt%) /PMVE (1-96 wt%);** see paragraphs 28-31 for liquid fluoroelastomer).

It is noted that weight ratio of Hochgesang's terpolymer TFE/VDF/PMVE is indeed reading on molar ratio of Applicants' terpolymer VdF/FMVE/TFE on page 4 at lines 7-9 in specification after conversion of unit. By doing so, such a fluoroelastomer composition can be readily used to make **seal, gasket and the like** (see paragraphs 147-150, particularly see "seal" on paragraph 147 at line 5 and "gasket" on paragraph 148 at line 2).

10. Therefore, one having ordinary skill in the art would have found it obvious to modify Duane's fluorinated composition by **replacing solid fluoropolymer such as polytetrafluoro-ethylene (PTFE) with other TFE-containing fluoropolymers such as terpolymer TFE/VDF/PMVE** as taught by Hochgesang based on functional equivalence and interexchange-ability. By doing so, one would expect that all embodiments in the same genus (fluoropolymer or PTFE fluoropolymer) would succeed. Additionally, by using such a specific terpolymer in the manufacture of cured articles will have many unique properties as specified for using as seal and gasket. More diversified products may be thereby obtained.

11. The discussion of the disclosures of the prior art of Hochgesang for Claims 1-2, 5, 8, 11, 14, 17, 20 and 23 of this office action is incorporated here by reference. Remaining dependent **Claims 2, 5, 8, 11, 14, 17, 20 and 23** can be thereby rejected by the disclosure of Duane or with the same rationale used above-mentioned 102 rejection by Hochgesang.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a fluoroelastomer composition comprising: (A) a terpolymer TFE/VDF/PMVE and (B) a liquid fluoroelastomer:

USPG-PUB 2004/0037967 A1 to Feiring et al. only discloses a coating system useful for plastic substrate. Such a coating system may be consisted of **the claimed terpoymer VDF/TFE/PMVE** (abstract, line 1-4; paragraphs 3-5). However, **no "liquid" fluoroelastomer is disclosed or suggested for blending together**. Therefore, Feiring fails to teach or fairly suggest the fluoroelastomer composition of present invention.

13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The **fax** number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H.Hu

Henry S. Hu

Patent Examiner, Art Unit 1713, USPTO

June 11, 2006

DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700